DOOSAN Document Transmittal Upper Trishuli-1 HEP (216MW)	Date 2022-03-06	DT No.: UT1-HEP-DHI-PC-D-0009	SHEET 1 OF 1
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SUBJECT	Review Note RN-0075_Layout Drawing of Flushing Tunnel		

S. N.	REVIEW NOTE NO.	REVIEW STATUS	DWG. / DOC. NO.	REV.	DWG. TITLE / DOC. DESCRIPTION	REMARK
1	RN-0075	RR	UT1-C-030-CVL-DG-53001	0A	Layout Drawing of Flushing Tunnel	4 SHEET
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Received by :

Date :

Legend of Review Status
A : APPROVED
AN : APPROVED AS NOTED
RR : RETURN FOR RESUBMISSION
FI : FOR INFORMATION

DHI STAMP

Doosan Heavy Industries & Construction Co Ltd
DOOSAN
Branch Office Nepal

Issued by DHI

Youngsoo Son

Project Manager

Email: youngsoo.son@doosan.com
Doosan Heavy Industries & Construction Co., Ltd.

Discipline : Civil

UPPER TRISHULI-1 HEP (216MW)

Client	**Nepal Water and Energy Development Company Private Limited**
Owner's Engineer	**Tractebel Engineering GmbH / Jade Consult**

REVIEW NOTE

Contractor	**Doosan Heavy Industries & Construction Co., Ltd.**		
Title of the Document	Layout drawing of flushing tunnel, sheets 1-3		
Document No.	UT1-C-030-CVL-DG-53001	Revision	0A
Date of Documents	28.07.2021	Received Date	19.08.2021
Transmittal Form No.	UT1-HEP-DHI-D-0031		
Previous Review Date/Status	N/A	Prev. Review Note No.	N/A
Review Note No.	**RN-0075**	**Present Review Date**	**05.03.2022**
		Present Review Status	**RR**

A: Approved AN: Approved as Noted RR: Returned for Resubmission FI: For Information, only.

General comments:

- The submitted document under this review is considered incomplete. It only comprises 3 arrangement drawings of the Desander Flushing Tunnel without any report regarding design assumptions, calculations (hydraulic/ structural), or explanations attached or listed in the reference drawings/ documents.
- The following documents have been commented by OE and returned for resubmission:
  UT1-C-000-CVL-DD-40004_0A Design Optimization Proposal – Desander Basin and Access Tunnel to DB (Review Note RN-0018)
  UT1-C-030-CVL-DG-52001_0A Layout drawing of Desander Basin (Review Note RN-0019)
  UT1-C-000-CVL-DD-40011_0A Physical Model Test Study Reportof Desander Basin (Review Note RN-0067)

Further OE´s comments are indicated in red in the Annex.

ANNEX:

UT1-C-030-CVL-DG-53001_0A sheets 1 to 3, comments

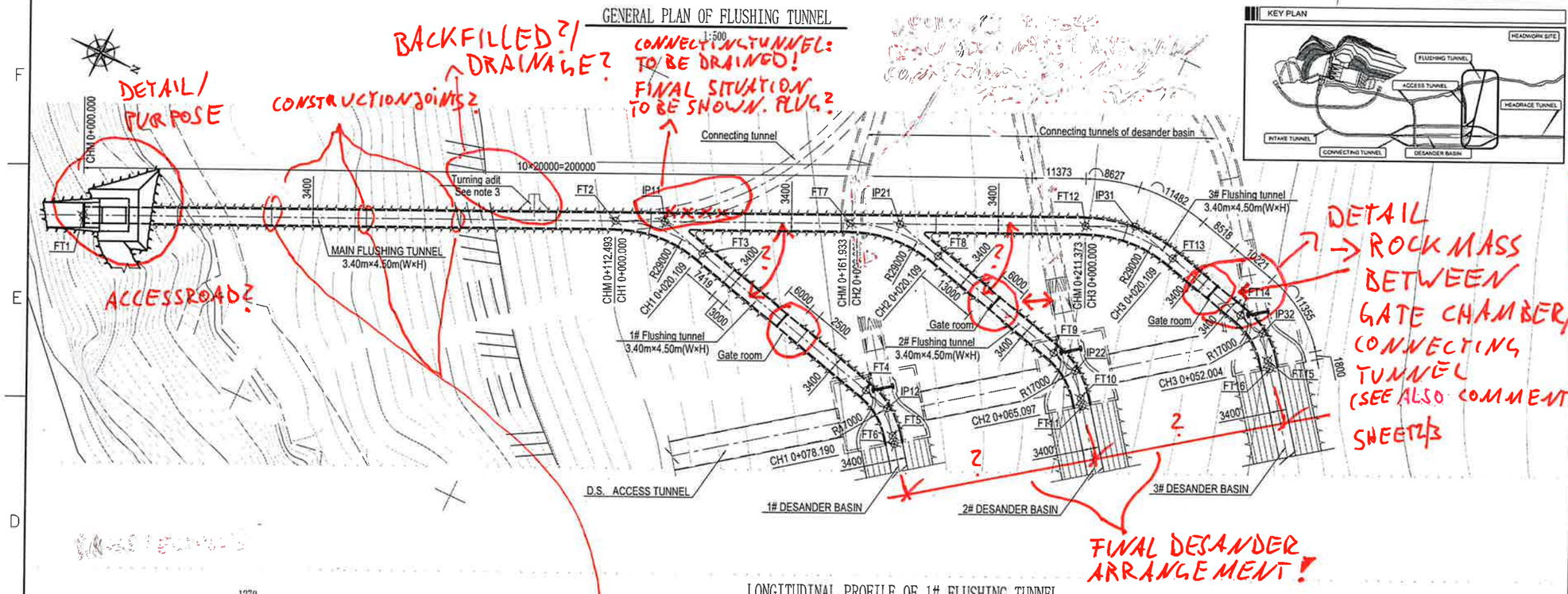
DISCLAIMER

Any approval will not release the Contractor from any of his obligations under the Contract.

Sebastian Beck, Chief Design Engineer

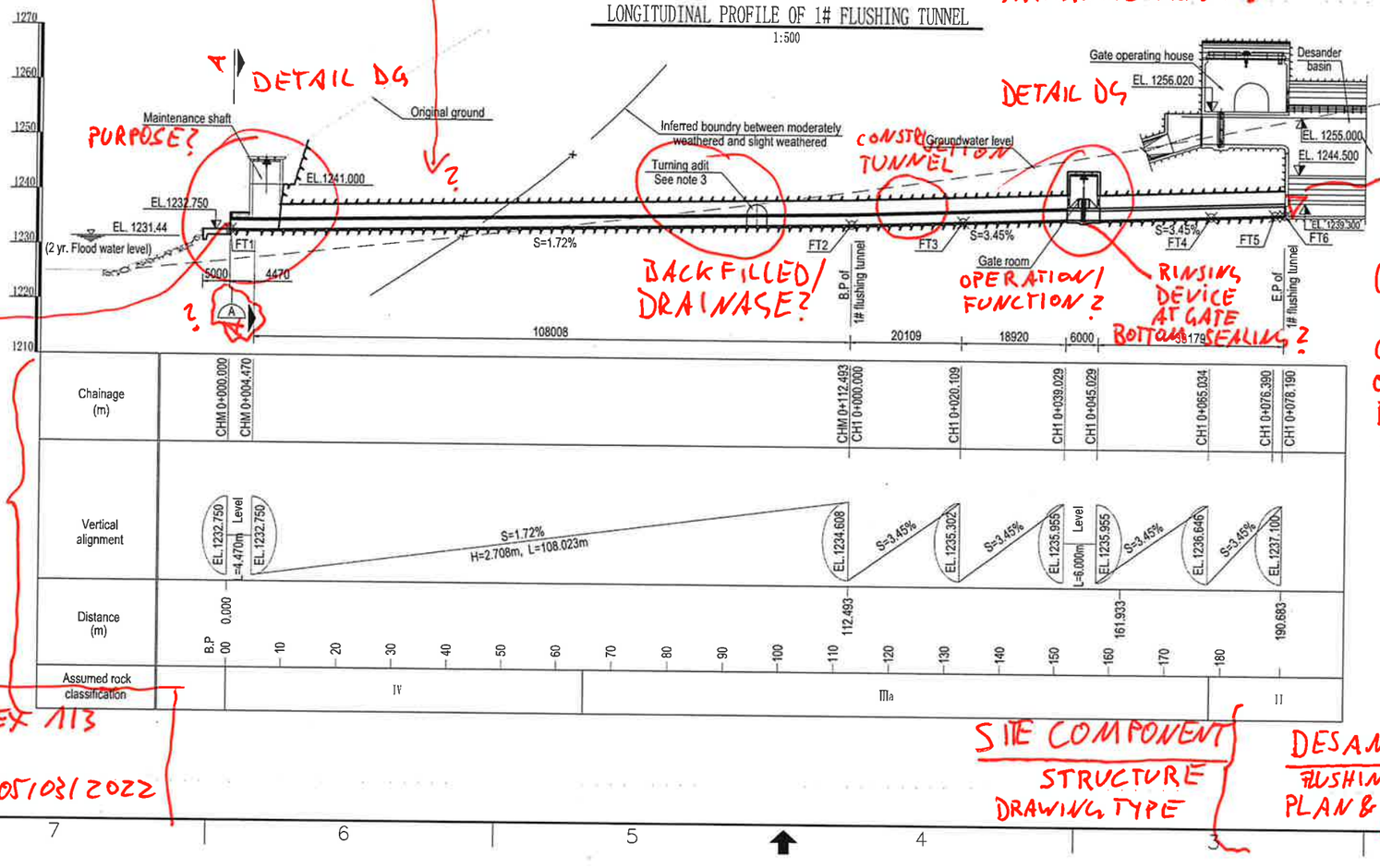
GENERAL PLAN OF FLUSHING TUNNEL

1:500



LONGITUDINAL PROFILE OF 1# FLUSHING TUNNEL

1:500



NOTE

1. This set of drawings are the layout drawing of flushing tunnel.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. Numbers & location of turning adit are subjected to construction ability & geological condition.
4. FOR CROSS SECTIONS SEE SHEET 3
5. FOR COORDINATES SEE SHEET 2

Legend:

- Inferred boundry between moderately weathered and slight weathered
- Excavation line
- Inferred ground water level
- surface of 1st concrete
- section of 1st concrete

Scale: 1:500 0 5 10 15 20 25m

REFERENCE DRAWINGS

DESANDER

SYMBOL AND LEGEND

APPROVAL

FOR REVIEW

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IT CAN BE CHANGED IN THE EXECUTION STAGE.
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REV. NO.	DATE	DESCRIPTION	DRAWN	CHKD.	APPD.
A	28.JUL., 2021	FOR REVIEW	WANG H.Q.	ZHANG J.Q.	LI W.S. LIU Y.Z.

PROJECT TITLE: Upper Trishuli-1 HEP (216MW)

OWNER: NWEDC

OWNER'S ENGINEER: TRACTEBEL ENGIE, fede CONSULT

CONTRACTOR: DOOSAN Doosan Heavy Industries & Construction

DRAWING TITLE: LAYOUT DRAWING OF FLUSHING TUNNEL (1/3)

INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-030-CVL-DG-53001	1 OF 3	0 A

A1 (594 x 841 MM)

BACKFILLED? / DRAINAGE?

CONNECTING TUNNEL: TO BE DRAINED! FINAL SITUATION TO BE SHOWN. PLUG?

CONSTRUCTION JOINTS?

DETAIL / PURPOSE

ACCESSROAD?

DETAIL → ROCK MASS BETWEEN GATE CHAMBER / CONNECTING TUNNEL (SEE ALSO COMMENT SHEET 3)

FINAL DESANDER ARRANGEMENT!

DETAIL DG

PURPOSE?

CONSTRUCTION TUNNEL

BACKFILLED / DRAINAGE?

OPERATION / FUNCTION?

RINSING DEVICE AT GATE BOTTOM SEALING?

ELEVATION TO BE CONFIRMED (SLOPE OF FLUSHING CHANNEL OF DESANDER BASIN → RN-0018)

CLOSED WITH GRID?

SEE EXAMPLE PROTOTYPE DG

RN-0075 ANNEX A13

05/03/2022

SITE COMPONENT

STRUCTURE

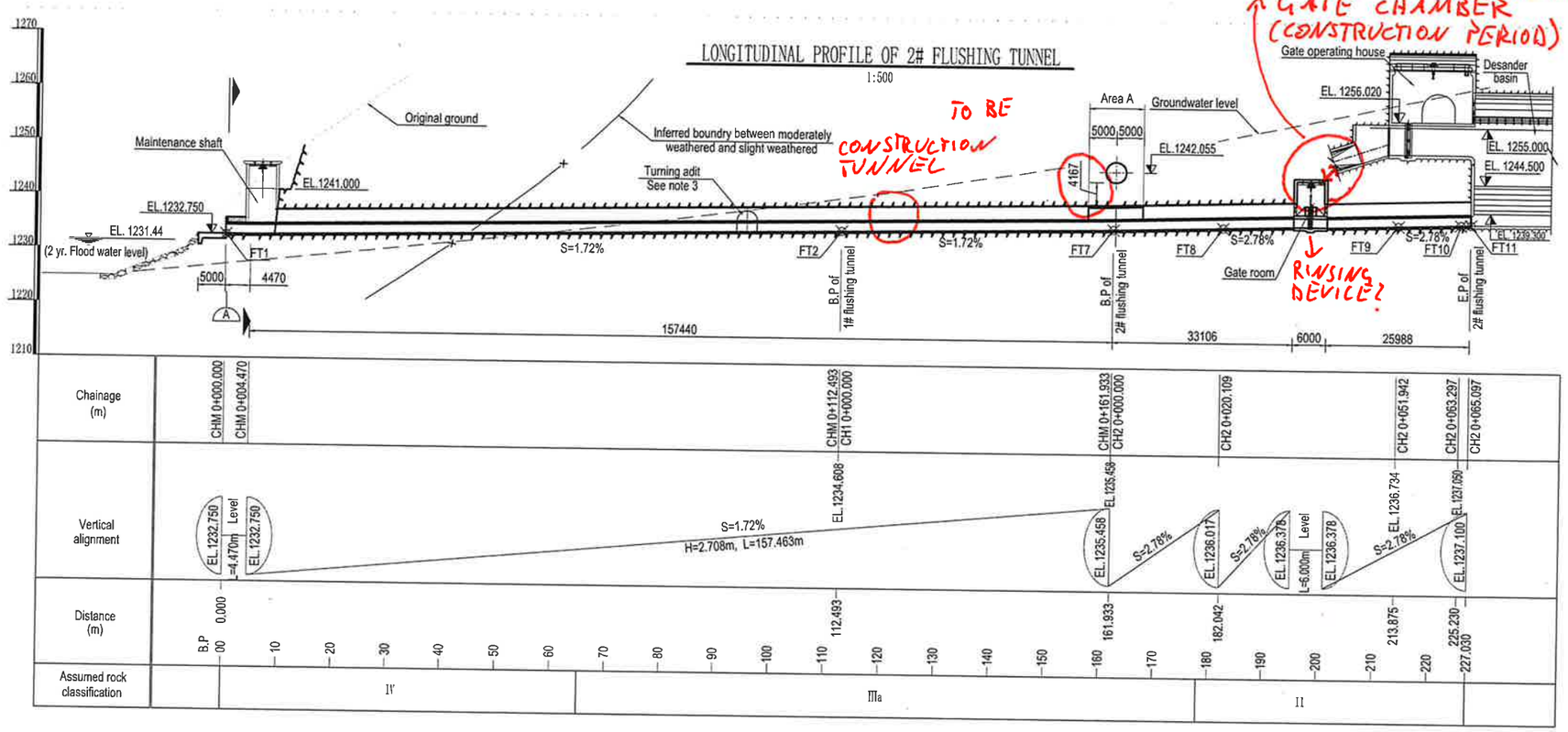
DRAWING TYPE

DESANDER FLUSHING TUNNEL PLAN & LONGITUDINAL SECTION

DETAIL DESIGN REPORT & CALCULATIONS?

LONGITUDINAL PROFILE OF 2# FLUSHING TUNNEL

1:500



COORDINATES AND CHAINAGES OF CONTROL POINTS

Point No.	X(N) (m)	Y(E) (m)	Z(Level) (m)	Chainages (m)	Remark
FT1	3112204.163	627229.618	EL. 1232.750	CHM 0+000.000	B.P of Main flushing tunnel
FT2	3112306.290	627182.451	EL. 1234.608	CHM 0+112.493	B.P of 1# flushing tunnel
				CH1 0+000.000	
FT3	3112325.926	627180.759	EL. 1235.302	CH1 0+020.109	1# flushing tunnel
FT4	3112369.333	627192.340	EL. 1236.646	CH1 0+065.034	
FT5	3112378.565	627198.585	EL. 1237.038	CH1 0+076.390	
FT6	3112379.643	627200.026	EL. 1237.100	CH1 0+078.190	E.P of 1# flushing tunnel
FT7	3112351.175	627161.721	EL. 1235.458	CHM 0+161.933	B.P of 2# flushing tunnel
				CH2 0+000.000	
FT8	3112370.810	627160.029	EL. 1236.017	CH2 0+020.109	2# flushing tunnel
FT9	3112401.567	627168.236	EL. 1236.734	CH2 0+051.942	
FT10	3112410.798	627174.480	EL. 1237.050	CH2 0+063.297	
FT11	3112411.876	627175.922	EL. 1237.100	CH2 0+065.097	E.P of 2# flushing tunnel

Point No.	X(N) (m)	Y(E) (m)	Z(Level) (m)	Chainages (m)	Remark
FT12	3112396.059	627140.992	EL. 1236.309	CHM 0+211.373	B.P of 3# flushing tunnel
				CH3 0+000.000	
FT13	3112415.694	627139.300	EL. 1236.655	CH3 0+020.109	3# flushing tunnel
FT14	3112433.801	627144.131	EL. 1236.874	CH3 0+038.849	
FT15	3112443.032	627150.375	EL. 1237.069	CH3 0+050.204	
FT16	3112444.110	627151.817	EL. 1237.100	CH3 0+052.004	E.P of 3# flushing tunnel
IP11	3112315.802	627178.058	/		I.P of 1# flushing tunnel
IP12	3112375.032	627193.861	/		
IP21	3112360.687	627157.328	/		I.P of 2# flushing tunnel
IP22	3112407.266	627169.756	/		
IP31	3112405.571	627136.599	/		I.P of 3# flushing tunnel
IP32	3112439.500	627145.651	/		

RN-0075 ANNEX 213
Yeltai Beck 05/03/2022

NOTE

1. This set of drawings are the layout drawing of flushing tunnel.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. Numbers & location of turning adit are subjected to construction ability & geological condition.

SEE ALSO COMMENTS OF SHEET 1

Legend:

- Inferred boundry between moderately weathered and slight weathered
- Excavation line
- Inferred ground water level
- surface of 1st concrete
- section of 1st concrete

Scale: 1:500 0 5 10 15 20 25m

REFERENCE DRAWINGS

SYMBOL AND LEGEND

APPROVAL

FOR REVIEW X

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REV. NO.	DATE	DESCRIPTION	DRAWN	CHKD.	APPD.
2	28.JUL., 2021	FOR REVIEW	WANG H.Q.	ZHANG J.Q.	LI W.G. LIU Y.Z.

PROJECT TITLE: Upper Trishuli-1 HEP (216MW)

OWNER: NWEDC

OWNER'S ENGINEER: TRACTEBEL GAMMA, JADE CONSULT

CONTRACTOR: DOOSAN Doosan Heavy Industries & Construction

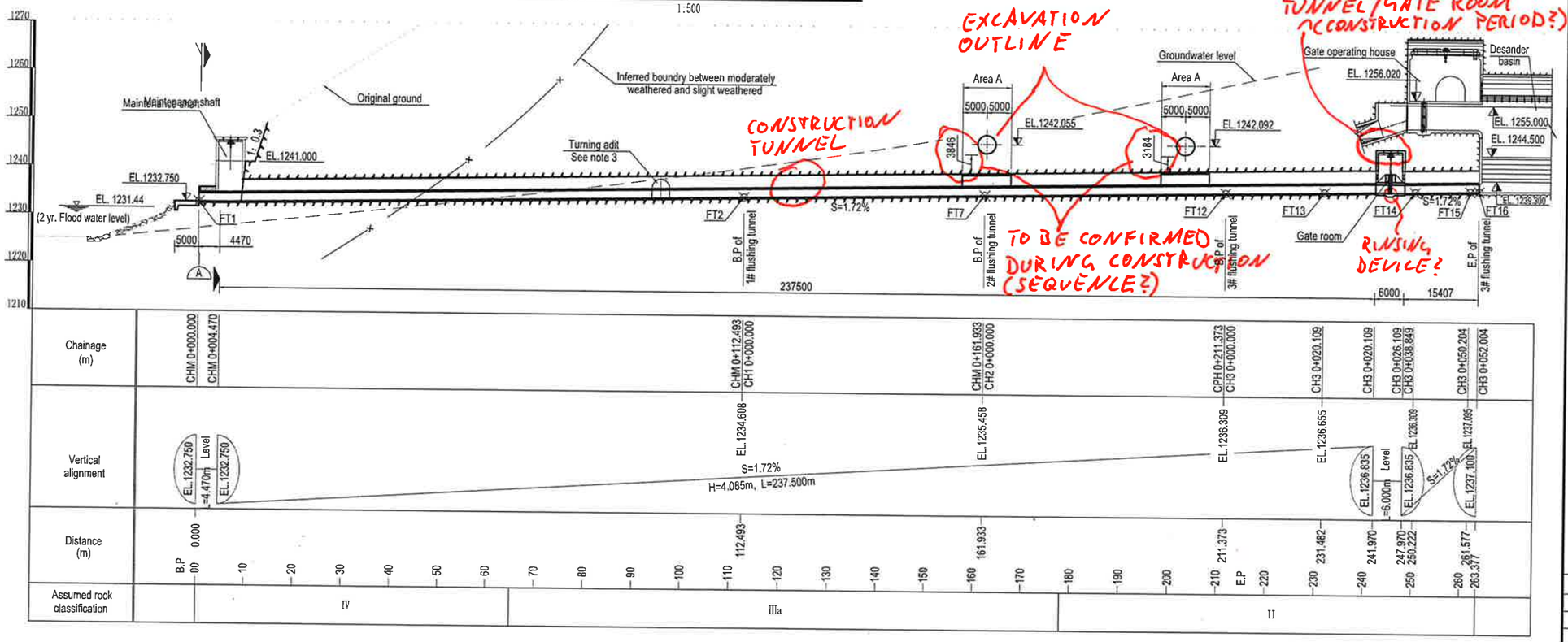
DRAWING TITLE: LAYOUT DRAWING OF FLUSHING TUNNEL (2/3)

BOOK	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-030-CVL-DG-53001	2 OF 3	0 A

A1 (594 x 841 MM)

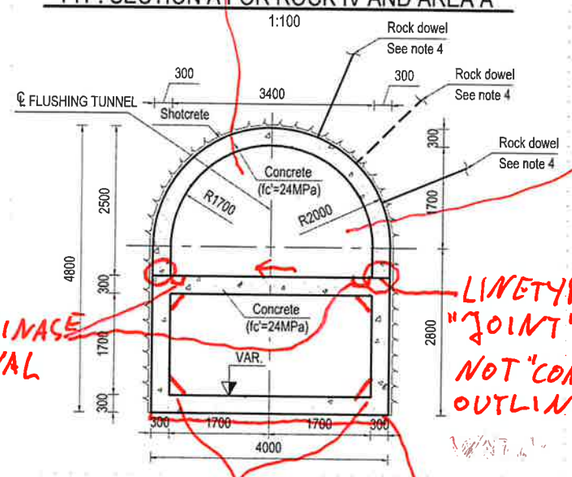
LONGITUDINAL PROFILE OF 3# FLUSHING TUNNEL

1:500



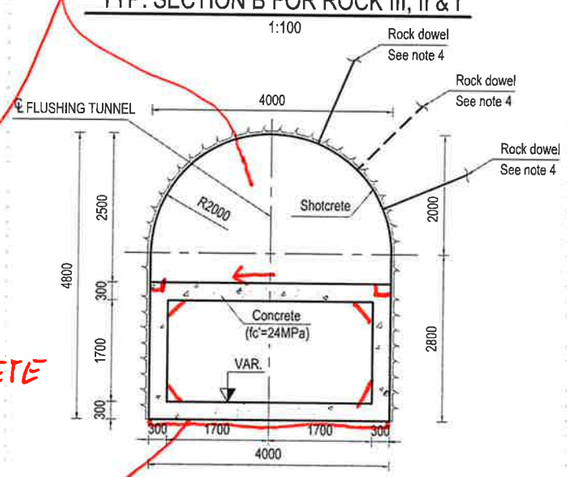
TYP. SECTION A FOR ROCK IV AND AREA A

1:100



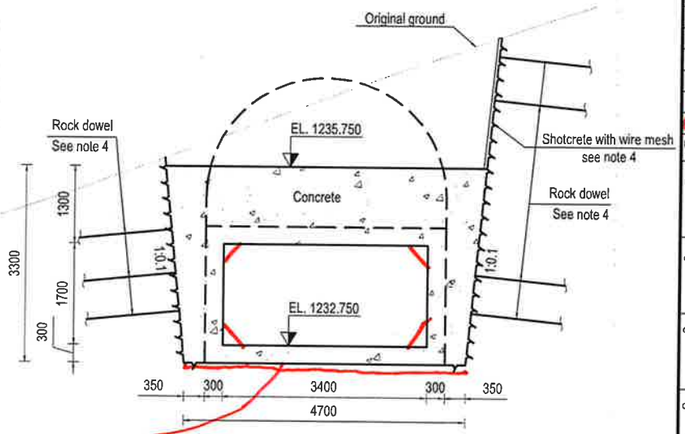
TYP. SECTION B FOR ROCK III, II & I

1:100



SECTION A-A

1:100



CLEARANCE SUFFICIANT? (TRANSPORTATION OF EQUIPMENT E.G. GATE?) MAINTENANCE DURING OPERATION

WALKWAY? SUPPLY FACILITIES?

DRAINAGE CANAL

LINETYPE "JOINT", NOT "CONCRETE OUTLINE"

CHAMFERS FAVORABLE

LEAN CONCRETE

05/03/2022

RN-0075T ANNEX 3/3

NOTE

1. This set of drawings is general plan layout of desander basin, access tunnel and flushing tunnel.
2. All dimensions are in millimeters, and coordinates, chainages & elevations are in meters.
3. Numbers & location of turning adit are subjected to construction abillity & geological condition.
4. Layout and spacing of rockdowls are shown in EXCAVATION AND SUPPORT OF FLUSHING TUNNEL (dwg. No.: UT1-C-030-CVL-DG-53002).

SEE ALSO COMMENTS OF SHEET 1

Legend:

- Inferred boundry between moderately weathered and slight weathered
- Excavation line
- Inferred ground water level
- surface of 1st concrete
- seclion of 1st concrete

Scale:

1:500 0 5 10 15 20 25m

1:100 0 1 2 3 4 5m

REFERENCE DRAWINGS

ROCK SUPPORT

SYMBOL AND LEGEND

APPROVAL

FOR REVIEW

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0A	28.JUL., 2021	FOR REVIEW	WANG H.Q.	ZHANG J.Q.	LI W.G. LIU Y.Z.

PROJECT TITLE

Upper Trishuli-1 HEP (216MW)

OWNER

NWEDC

OWNER'S ENGINEER

TRACTEBEL ENGIE

CONTRACTOR

DOOSAN Doosan Heavy Industries & Construction

DRAWING TITLE

LAYOUT DRAWING OF FLUSHING TUNNEL (3/3)

INDEX	DRAWING NUMBER	SHEET NO.	REV. NO.
A	UT1-C-030-CVL-DG-53001	3 OF 3	0A

A1 (594 x 841 MM)